

In the Drawings

“Replacement Sheets” are attached which include a clean version of amended Figs. 1 - 3.
The attached sheets replace the original sheets including Figs. 1-3.

“Annotated Sheets Showing Changes” are also attached which include a marked-up
version of Figs. 1 - 3.

Figures 1 - 3 have now been amended to include the label of “Prior Art”.

REMARKS

In response to the Office Action dated October 1, 2004, Applicant respectfully requests reconsideration. Claims 1 - 4 were previously pending in this application. Claims 1 - 4 have been amended. New claims 5-12 have been added. As a result, claims 1- 12 are pending for examination, with claim 1 being independent. No new matter has been added.

Objections to the Drawings

The Office Action objected to figures 1 - 3 as not being labeled as Prior Art. Figures 1 - 3 have now been amended to include the label of "Prior Art".

Accordingly, withdrawal of this objection is respectfully requested.

Rejections Under 35 U.S.C. §102

The Office Action rejected claims 1 - 4 under 35 U.S.C. §102 as purportedly being anticipated by Kendall et al. This rejection is respectfully traversed.

Kendall discloses a semiconductor capacitor which utilizes the volume of the semiconductor substrate in which it is formed to create increased surface area, and thereby provide increased capacitance (Abstract). The device disclosed by Kendall in figures 7a - 7c (relied upon in the Office Action) contains ribs which are equal in terms of both planar base surface area and cross-section.

Amended claim 1 is directed to a variable capacitor formed in a semiconductor substrate with a ribbed surface having a plurality of ribs, the capacitor having a first electrode formed of all the ribs protruding from the substrate of the portions of the substrate underlying the ribs, and of at least portions of the substrate separating the bases of two of the ribs, and having a second electrode superposed to at least one portion of the first electrode. The ribs are either, non-identical in terms of planar base surface area, or identical in terms of planar base surface area and non-identical in terms of cross-section.

Claim 1 clearly distinguishes over Kendall. Claim 1 requires the ribs of the capacitor to be either non-identical in terms of planar base surface area, or identical in terms of planar base surface area and non-identical in terms of cross-section. Figures 7a - 7c of Kendall show a device with ribs identical in terms of both planar base surface area and cross-section. The Office Action asserts that Kendall teaches a device which contains ribs non-identical in planar base surface area and cites Col. 9, line 64 through Col. 10, lines 1-18. Applicant respectfully disagrees. The section cited by the Office Action teaches ribs whose base width differs from the width of the apex of the ribs. The section cited by the Office Action does not teach ribs which differ from each other in terms of the planar base surface area of the ribs. Therefore, it is respectfully asserted that claim 1, as well as the claims that depend therefrom, patentably distinguishes over Kendall.

Accordingly, withdrawal of the rejection of claims 1 - 4 under 35 USC § 102 as purportedly being anticipated by Kendall is respectfully requested.

Rejections Under 35 U.S.C. §103

The Office Action also rejected claims 1 - 4 under 35 U.S.C. §103 as purportedly being obvious over the admitted Prior Art, described in the specification, in view of Kendall. This rejection is respectfully traversed.

The admitted Prior Art is directed to a variable capacitor formed in a semiconductor substrate. Figure 2 of the application (relied upon in the Office Action) discloses a device with ribs of both equal planar base surface area and cross-section. The device in Figure 2 is described as having a disadvantage of producing a discontinuity in the capacitance variation around a pinch-off voltage (page 2, lines 3-7).

The Office Action concedes that the admitted Prior Art does not teach ribs which are non-identical in terms of inner base surface area, but asserts that Kendall teaches such ribs (Col. 9, line 64 through Col. 10, lines 1-18). The Office Action asserts that it would have been obvious to one skilled in the art to modify the Prior Art capacitor of figure 2 to employ ribs which are non-identical in terms of planar base surface area. Applicant respectfully disagrees.

Even if the prior art were modified in the manner alleged to change the ribs in the admitted Prior Art to have the rib structure as allegedly taught by Kendall (which Applicant does not concede), the claims would still patentably distinguish over any such combination. In this respect, and as discussed above in connection with the §102 rejection over Kendall, the teaching in Kendall of ribs with a base that differs in width from the apex does not teach ribs non-identical in terms of planar base surface area.

As should be appreciated from the discussion above, neither the admitted Prior Art nor Kendall teaches or suggests a capacitor with ribs that are either non-identical in terms of planar base surface area or identical in terms of planar base surface area and non-identical in terms of cross-section. Thus, claim 1 patentably distinguishes over any combination of these references, such that the rejection of claim 1 under §103 as purportedly being obvious over the admitted Prior Art in view of Kendall is improper and should be withdrawn.

Claims 2-12 depend from claim 1 and are patentable for at least the same reasons.

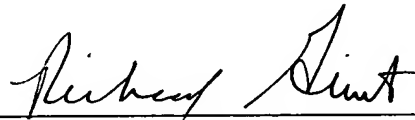
CONCLUSION

In view of the foregoing, the application is believed to be in condition for allowance. A notice to this effect is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication is not believed to place the application in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,
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Docket No.: S1022.81036US00
Date: February 1, 2005
x01/01/05x

Serial No. 10/669,107

Entitled: VARIABLE CAPACITANCE

Inventor: Patrick Poveda

S1022.81036US00

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